

Notice of Allowability

Application No.

10/002,121

Applicant(s)

OZAWA ET AL.

Examiner

Art Unit

Tom V. Sheng

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 11/28/2005.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Linda Saltiel on 2/13/2006.

Claim 1:

Line 8; before "subfield", replace "one" with --each-- and before "pixel", replace "one" with --each--.

Line 9; replace "self- memory" with --self-rewritable memory-- and delete " and".

Line 10; replace "bits" with --a bit--.

Line 11; replace "pixel;" with --pixel,--.

Line 12; replace "bits;" with --bit,--.

Line 14; replace "bits;" with --bit,--.

Line 15; replace "bits" with --bit--; before "memories", delete "said "; and after "memories", insert -- via said self-rewritable memory--.

Claim 2:

Line 7; replace " that store each" with --, each storing a respective--.

Line 12; after "rewrites in the ", insert --memory via the --.

Election/Restrictions

2. Claims 1 and 2 are generic and allowable. Accordingly, the restriction requirement as to the encompassed species is hereby withdrawn and claims 5, 7-9 and 12, directed to the species of Two no longer withdrawn from consideration since all of the claims to this species depend from or otherwise include each of the limitations of an allowed generic claim.

In view of the above noted withdrawal of the restriction requirement as to the linked species, applicant(s) are advised that if any claim(s) depending from or including all the limitations of the allowable generic linking claim(s) be presented in a continuation or divisional application, such claims may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Allowable Subject Matter

3. Claims 1-12 are allowed.

4. The following is an examiner's statement of reasons for allowance:

The claimed invention is directed to an electro-optical device wherein each pixel includes memories that store bits of the gray scale data, a selector that selects one of the memories that stores the bit corresponding to a subfield, a closed loop of inverters, and a TFT that reads and latches the bit stored in the selected memory and that rewrites in the selected memory, and complementary switches that select, with respect to a pixel electrode, a voltage corresponding to an ON display signal or an OFF display signal in accordance with the bit read from the selected memory.

Independent claim 1 identifies the uniquely distinct features, inter alia, "in each subfield and with respect to each pixel having a plurality of bit memories and a self-

Art Unit: 2629

rewritable memory, reading ... a bit ..., latching the bit, ... writing the latched bit to the one of the memories via said self-rewritable memory.”

Independent claim 2 identifies the uniquely distinct features for each pixel, inter alia, “a plurality of memories ...; a self-rewritable memory; a selector ...; a latch circuit that reads and latches the bit stored in the memory selected by said selector, and that rewrites in the memory via the self-rewritable memory.”

Okumura et al. (US 5,945,972) teaches a liquid crystal display with multiple memories used with each pixel. The memories are individually selectable according to a memory selector and rewritable according to a rewrite director. However, the memories used are defined according to the types of images and do not correspond to subfield weights of each frame. Moreover, the rewriting does not involve a self-rewritable memory. Thus, Okumura does not teach above claim limitations.

Sato et al. (US 5,712,652) teaches a liquid crystal display with one memory element for each pixel. Further, the data stored at the memory element determines whether the display is on/off and whether a reset is performed. Sato does not teach a plurality of memories that are individually selectable with each subfield or a self-writable memory, through which the selected memory is rewritten. Thus, Sato does not teach above claim limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Art Unit: 2629

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Sheng
February 13, 2006

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Amr A. Awad', written over a horizontal line.